

CLAIMS

1. A connector (18) for connecting one end (14) of an arm (12) of a windshield wiper (10) to a transverse hinge pin (30) belonging to a structure element (16) of a windshield wiper blade unit:

said connector being characterized in that it comprises a top portion (32) which is suitable for being connected in disassemblable manner to one end (14) of a windshield wiper arm (12), which end is substantially in the shape of a section member segment having an upside-down channel section which is downwardly open; and

a bottom portion (34) which is suitable for being received in disassemblable manner between two parallel flanges (24) of a structure element (16) of a windshield wiper blade unit whose flanges (24) are interconnected via a top back (26) and which is provided with a transverse rod (30) that extends between the inside faces (24i) of the two flanges (24) so as to constitute the transverse hinge pin.

2. A connector (18) according to the preceding claim, characterized in that the bottom portion (34) of the connector (18) is suitable for being assembled between the parallel flanges (24) of the structure element (16) of the wiper blade unit, through an opening (28) in the top back (26).

3. A connector (18) according to any preceding claim, characterized in that the bottom portion (34) of the connector (18) has outside vertical guide side

faces (56a), each of which bears against a respective inside vertical longitudinal face, facing and being adjacent (24i) to the flange (24) of the structure element (16).

5 4. A connector (18) according to the preceding claim, characterized in that the guide faces (56a) are offset longitudinally relative to the hinge axis (A) defined by the hinge pin.

10 5. A connector (18) according to claim 3 or claim 4, characterized in that the guide side faces (56a) are outside faces of guide side flange plates (56) of the bottom portion (34) of the connector (18), which guide side flange plates are distributed on either side of a vertical longitudinal midplane of the connector (18).

15 6. A connector (18) according to any preceding claim, characterized in that the bottom portion (34) of the connector (18) is provided with at least one cylindrical hinge recess (50) having a transverse axis and into which said transverse hinge rod (30) is
20 suitable for being inserted radially.

 7. A connector (18) according to the preceding claim, characterized in that the bottom portion (34) of the connector (18) is provided with a plurality of hinge recesses (50) of different inside diameters, so
25 that the connector (18) can receive complementary transverse hinge rods (30) of different sizes.

 8. A connector (18) according to claim 6 or claim 7, characterized in that the bottom portion (34) of the connector (18) is provided with an opening (52)
30 associated with each recess (50), which extends

vertically downwards from the associated recess (50), and which opens out in a bottom edge (34i) of the bottom portion (34) of the connector (18).

5 9. A connector (18) according to any one of claims 6 to 8, characterized in that the hinge recesses (50) are provided in hinge side cheek plates (54) of the bottom portion (34) of the connector (18), which hinge side cheek plates are distributed on either side of a vertical longitudinal midplane of the connector
10 (18).

10. A connector (18) according to claim 9, taken in combination with claim 4, characterized in that the guide cheek plates (56) and the hinge cheek plates (54) that are situated on the same side of the longitudinal
15 midplane of the connector (18) are portions of a common cheek plate (54) extending vertically downwards from the top portion (32) of the connector (18).

11. A connector (18) according to any preceding claim, characterized in that the top portion (32) of
20 the connector (18) is of shape complementary to the shape of the end (14) of the arm (12), and the top portion (32) of the connector (18) is provided with means (38, 40) for locking the connector (18) in the position in which it is assembled in the end (14) of
25 the arm (12).

12. A connector (18) according to the preceding claim, characterized in that the connector (18) is provided with longitudinal catches (38) for locking the
connector (18) in the position in which it is assembled
30 in the front end (14) of arm (12), which catches

extends longitudinally rearwards from the rear longitudinal end of the top portion (32) of the connector (18).

5 13. A connector (18) according to the preceding claim, characterized in that the free longitudinal end (40) of each longitudinal catch (38) forms a hook that is suitable for bearing against a rear edge (20b) of the end (14) of the arm (12) for locking the connector (18) in rearward and/or downward movement relative to
10 the end (14) of the windshield wiper arm (12).

14. A connector (18) according to any one of claims 11 to 13, characterized in that the top portion (32) of the connector (18) is extended forwards by a nose (42) which projects vertically upwards relative to
15 a horizontal top face (44s) of the top portion (32) of the connector (18), and which has a rear vertical transverse face (42a) against which the end (14) of the arm (12) is in longitudinal abutment forwards when the connector (18) is in the position in which it is
20 assembled in the end (14) of the arm (12).

15. A connector (18) according to the preceding claim, characterized in that the horizontal top face (44s) of the top portion (32) of the connector (18) is provided with an orifice (48) at its front end, which
25 orifice is suitable for receiving a finger (46) on the end (14) of the windshield wiper arm (12).